

### Remarks

Applicant has amended claims 1 and 2 to more clearly define the invention, and not for reasons related to patentability. No new matter has been added.

The Examiner rejected claim 1 under 35 U.S.C. 103(a). Specifically, the Examiner stated:

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,384,997 B1), in view of Aoki (US 2001/0010605).

As to Claim 1, Wu et al. discloses a method for writing data on a number of sectors of a track of a disk drive (FIG. 1, "10", "12") that comprises: sending a signal to write data on a first sector of the track (col. 3, lines 58-60, sending a signal to write data is inherent in Wu's write operation, note col. 3, lines 65-67, that writing occurs on a sector of a disk); receiving a write data fault (col. 3, lines 60-62); sending a signal to write data on another sector of the track after skipping a predetermined number of sectors (col. 3, line 64 – col. 4, line 10); waiting for the first sector to be in position again (col. 4, lines 7-14 and 42-47).

Wu et al. fails to particularly disclose sending a signal to retry to write data on the first sector if a predetermined number of retries to write data on the track has not been exceeded.

However, Aoki discloses such (page 3, [0036-0039, 0043]). Therefore it would have been obvious to one of ordinary skill in the art to modify Wu et al.'s method by implementing a retry operation as disclosed by Aoki, the motivation being because it would provide Wu et al.'s method with the enhanced capability of enabling a secured constant data transfer rate from a disk to the host system (page 2,[0013]).

Applicant has amended claim 1 to more clearly define the invention, and not for reasons related to patentability. As such, Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that Wu et al. and Aoki are different from the invention of claim 1, and Applicant further respectfully submits that even if one of ordinary skill in the art were to combine these references in the manner set forth by the Examiner, that one of ordinary skill in the art would not arrive at the invention of claim 1. Specifically, Applicant respectfully submits that Wu et al. discloses a method for writing that is different from the method of claim 1. In particular, Wu et al. teaches the following upon detecting a write fault (see FIG. 4 and col. 3, line 64 to col. 4, line 60): (a) skipping a number of sectors; (b) writing the remaining data; (c) creating a "write defect list" associated with a current "file allocation unit";

and (d) writing the “write defect list” to a private data area. Applicant respectfully submits that the teaching of Wu et al. is different from the invention of claim 1 of the present application for writing data on a plurality of sectors because claim 1 requires: (a) after receiving a write data fault relating to writing data at a particular sector, sending a signal to write data on other sectors of the track after skipping a predetermined number of sectors; and (b) sending a signal to retry to write data on the particular sector and any skipped sectors if a predetermined number of retries to write data on the track has not been exceeded. As the Examiner can readily appreciate from this, embodiments of claim 1 are different from the teaching of Wu et al. because, for example, Wu et al. teaches writing data in a different area of the disk.

Applicant respectfully submits that Aoki discloses a method for retry operations on a disk that is different from the method of claim 1. Specifically, Aoki teaches a method wherein retries are carried out upon a sector upon receiving a data fault, and wherein the number of retries for the sector are given by the number of retries that can be carried out during a particular time period. As set forth in Aoki at [0046]: “Therefore, even if an access error occurs, the execution of a command can be ended within the specific time limit.” Further, as set forth in Aoki at [0047], “an almost uniform retry operation time can be secured for each of the data sectors included in the access range within the command execution time limit. As a result, it is possible to secure the quality of the transfer data sufficiently without decreasing the constant data transfer rate or degrading the quality of the data so much. Consequently, the present invention is particularly suitable for the recording and reproducing of continuous data, such as audio data or video data.” Applicant respectfully submits that the teaching of Aoki is different from the invention of claim 1 of the present application for writing data on a plurality of sectors because claim 1 requires: (a) after receiving a write data fault relating to writing data at a particular sector, sending a signal to write data on other sectors of the track after skipping a predetermined number of sectors; and (b) sending a signal to retry to write data on the particular sector and any skipped sectors if a predetermined number of retries to write data on the track has not been exceeded. As the Examiner can readily appreciate from this, embodiments of claim 1 are different from the teaching of Aoki because, for example, Aoki teaches retrying the write a predetermined number of times on the sector at which the write default occurred (where the

predetermined number of times is determined by a time limit) before going on to write further sectors.

In addition, Applicant respectfully submits that there is no motivation or suggestion to combine the teachings of Wu et al. and Aoki except by improper use of hindsight. Specifically, Wu et al. teaches writing data that cannot be written on a sector onto a separate portion of the disk, whereas Aoki teaches retrying the write operation and stopping the write operation when a time limit for the write operation will be exceeded. Finally, Applicant respectfully submits that even if one of ordinary skill in the art were to combine the references as set forth by the Examiner, that one of ordinary skill in the art would not arrive at the invention of claim 1 for the following reason. The retry method of Aoki depends on quitting after retrying the write operation a number of times where the number of times is determined by a time period allocated for the write operation. This is completely different from Wu et al. which depends on writing data to another portion of the disk if a data fault is encountered when trying to write in an intended area. As such, Applicants respectfully submit that one of ordinary skill in the art would not know how to combine the teachings of Wu et al. and Aoki to arrive at the invention of claim 1.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner rejected claim 2 under 35 U.S.C. 103(a). Specifically, the Examiner stated:

As to Claim 2, has limitations similar to those treated in the rejection of claim 1, are therefore met by the references, as discussed above. Claim 1, recites however "read data fault" instead of a "write data fault", Aoki is relied upon for disclosing such (page 2, [0029, 0032, 0036, 0039]).

Applicant has amended claim 2 to more clearly define the invention, and not for reasons related to patentability. As such, Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that Wu et al. does not disclose a method for reading data other than one entailing the use of a file allocation unit having a skipped write defect

list that is prepared upon encountering a write error during a process of writing the data in the first place (see FIG. 5 and col. 5, lines 37-49 of Wu et al.). As such, Applicant respectfully submits that Wu et al. neither teaches nor suggests a method for reading data from a disk that is anything like the invention of claim 2.

Applicant respectfully submits that Aoki discloses a method for reading that is different from the method of claim 2. Specifically, as set forth above, Aoki teaches the following when reading sectors of data from a disk (note that this is a sector by sector approach): reading a bad sector a number of times determined by a maximum amount of time allocated to reading the sector. If the time taken for the reading retries does not exceed a time limit, no further action is taken. However, if the time taken for the reading retries equals or exceeds the time limit, then an error is noted, and the method goes on to read the next sector. Applicant respectfully submits that the teaching of Aoki is completely different from the invention claim 2 of the present application for reading data from a plurality of sectors because claim 2 requires: (a) sending a signal to read data from a plurality of sectors starting at a sector of the track; (b) receiving one or more read data faults; and (c) sending a signal to retry to read data from sectors of the track that were unable to be read previously if a predetermined number of retries to read data has not been exceeded. As the Examiner can readily appreciate from this, embodiments of claim 2 are different from the teaching of Aoki because, for example, Aoki teaches retrying the read a predetermined number of times on the sector at which the read default occurred (where the predetermined number of times is determined by a time limit) before going on to read further sectors.

In addition, Applicant respectfully submits that there is no motivation or suggestion to combine the teachings of Wu et al. and Aoki except by improper use of hindsight. Specifically, Wu et al. teaches reading data that could not be written on a sector from a separate portion of the disk, whereas Aoki teaches retrying the read operation and stopping the read operation when a time limit for the read operation will be exceeded. Finally, Applicant respectfully submits that even if one of ordinary skill in the art were to combine the references as set forth by the Examiner, that one of ordinary skill in the art would not arrive at the invention of claim 2 for the following reason. The retry method of Aoki depends on quitting after retrying the

read operation a number of times where the number of times is determined by a time period allocated for the read operation. This is completely different from Wu et al. which depends on reading data from another portion of the disk if a data fault is encountered when trying to write in an intended area. As such, Applicants respectfully submit that one of ordinary skill in the art would not know how to combine the teachings of Wu et al. and Aoki to arrive at the invention of claim 2.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner rejected claim 3 under 35 U.S.C. 103(a). Specifically, the Examiner stated:

As to Claim 3, Aoki further discloses wherein the predetermined number of sectors to skip is zero (0) ([0042, 0044]).

Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that claim 3 depends from claim 1, and that claim 3 is therefore patentable over Wu et al. in view of Aoki for the reasons set forth above with respect to claim 1. Further, Applicant respectfully submits that Aoki, at para [0042] and [0044], teaches moving to the next sector after retrying to write the sector where a fault occurred, whereas the invention of claim 3 of the present application requires writing on the next sector before retrying to write the sector where a fault occurred.

In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner rejected claim 4 under 35 U.S.C. 103(a). Specifically, the Examiner stated:

As to Claim 4, Wu et al. further discloses the predetermined number of sectors to skip is 1, 2 or more (col. 3, line 67-col. 4, line 7).

Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that claim 4 depends from claim 1, and that claim 4 is therefore patentable over Wu et al. in view of Aoki for the reasons set forth above with respect to claim 1.

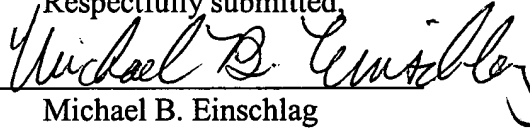
In light of the above, Applicant respectfully requests the Examiner to withdraw this rejection.

The Examiner stated:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Russell (US 6,247,152 B1); Hoskins et al. (US 2002/0057510A1).

Applicant respectfully submits that Russell and Hoskins et al. are no more relevant to the present claims than the references relied upon.

In light of the above, Applicant respectfully submits that all the remaining claims are allowable, and Applicant respectfully requests that the Examiner reconsider the case and pass the case to issue. Should the Examiner have any questions or wish to discuss any aspect of the application, a telephone call to the undersigned would be welcome.

Respectfully submitted,  
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